

Listing of Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method of displaying a stored image of an anatomical feature and at least one computer-detected region of pathological interest, the method comprising:
 - displaying an image of the anatomical feature;
 - simultaneously displaying with the image at least one uniquely identified marker corresponding to each of at least one computer-detected region of pathological interest;
 - displaying a first indication associated with each marker indicative of the probability that the region of the pathological interest is cancerous as determined by a computer-implemented detection algorithm;
 - displaying a second indication associated with each marker indicative of a classification of the region of pathological interest as determined by a computer-implemented detection algorithm;
 - receiving a user input command related to at least one of the uniquely identified markers;
 - modifying the visual appearance of at least one of the uniquely identified markers according to the received user input command; and
 - saving the uniquely identified markers in the stored image.
- 2-10. (Cancelled)
11. (Currently Amended) The method of claim ~~5540~~, wherein each marker is uniquely identified by an alphanumeric label adjacent to the marker.
- 12-13. (Cancelled)
14. (Currently Amended) The method of claim ~~5540~~, wherein modifying the visual appearance of the displayed marker in response to the classification alternative selected by the second user-input comprises changing the color of the displayed marker.
15. (Cancelled)

16. (Currently Amended) A system for displaying a number of unique locations of pathological interest of an anatomical feature detected by a computer-implemented detection algorithm, the system comprising:

storage media including an image of the anatomical feature and the locations of pathological interest of the anatomical feature detected by the computer-implemented detection algorithm;

a processor coupled to the storage media, the processor generating and operable to generate a uniquely identified marker corresponding to each computer-detected region of pathological interest, wherein each marker visually displays classification data as determined by the computer-implemented detection algorithm entered by a user;

a display coupled to the processor and configured to simultaneously display the image of the anatomical feature and each marker; ~~and~~

a user-input device coupled to the processor and operable to receive a selection of one of the markers and a selection of classification data

wherein upon the receipt of the selection of ~~one of the markers and the selection of classification data~~, the processor modifies the visual display of the marker and stores ~~states~~ an image file comprising the image of the anatomical feature and the modified uniquely identified markers on the storage media; and

a network connected to the processor and the storage media, over which network a diagnosing clinician accesses the image file comprising the image of the anatomical feature and the modified uniquely identified markers to diagnose a patient's condition.

17. (Cancelled)

18. (Previously Presented) The system of claim 16, wherein each marker is configured to be electronically stored in the same image layer as the image of the anatomical feature in the storage media.

19-22. (Cancelled)

23. (Original) The system of claim 16, wherein the computer-implemented detection algorithm determines a probability of cancer for each region of pathological interest.

24. (Currently Amended) The system of claim 23, wherein each marker visually indicates the probability of cancer determined by the computer-implemented detection algorithm.

25. (Original) The system of claim 24, wherein the color of each marker visually indicates the probability of cancer determined by the computer-implemented detection algorithm.

26-35. (Cancelled)

36. (Previously Presented) The method of claim 1 wherein the classification of the region of pathological interest is a physiological assessment of the region of pathological interest.

37. (Previously Presented) The method of claim 36 wherein the second indication comprises the shape of each marker visually indicating the classification of the region of pathological interest.

38. (Currently Amended) The method of claim ~~5540~~ wherein the first clinician's interpretation of at least one region of interest is selected from the menu ~~comprises the~~ classification alternatives of: microcalcification, nodule, and cyst.

39. (Currently Amended) The method of claim ~~5540~~ wherein the step of modifying the visual appearance of the displayed marker comprises changing the shape of the marker.

40. (Currently Amended) The method of claim ~~5540~~ wherein the step of modifying the visual appearance of the displayed marker comprises adding an alphanumeric indicator to the marker.

41-46. (Cancelled)

47. (Previously Presented) The method of claim 1 further comprising transmitting the stored image file with the saved markers to a remote location.

48. (Currently Amended) The method of claim ~~47~~⁴⁸ wherein the image is of a quality such that the image may be the basis of a diagnostic analysis by a clinician.

49. (Currently Amended) The method of claim ~~55~~⁴⁹ further comprising transmitting the saved image file to a remote location.

50. (Previously Presented) The system of claim 16 wherein the processor is configured to open the stored image file of the anatomical image and the uniquely identified markers such that a clinician may use the processor to open the file and view the image and the markers on the display.

51. (Previously Presented) The system of claim 16 further comprising a transmitter such that the stored image file of the anatomical feature and the markers may be transmitted as a single file to a remote location.

52-54. (Cancelled)

55. (New) A method of annotating a diagnostic image comprising the steps of:
applying a computer aided diagnosis algorithm to the diagnostic image to identify at least one region of interest;
identifying each region of interest with a uniquely identified marker that is stored in the diagnostic image;
presenting the diagnostic image and at least one uniquely identified marker to a first clinician for review;
receiving an input from the first clinician indicative of the first clinician's interpretation of at least one region of interest;

modifying the visual appearance the uniquely identified marker associated with the at least one region of interest in a predetermined manner associated with the input from the first clinician;

storing the modified uniquely identified marker in the diagnostic image;

presenting the diagnostic image and at least one modified uniquely identified marker to a second clinician for diagnosis.

56. (New) The method of claim 55 further comprising:

applying at least one computer aided diagnosis algorithm to the diagnostic image to identify a probability of cancer for each region of interest and a classification of each region of interest;

modifying the visual appearance of each uniquely identified marker to reflect the computer aided diagnosis algorithm determined probability of cancer and region of interest classification.

57. (New) The method of claim 56 wherein the input from the first clinician is indicative of a modification to the computer aided diagnosis algorithm determined probability of cancer or the region of interest classification.

58. (New) The method of claim 57 wherein the uniquely identified marker is modified in a predetermined manner according to the first clinician's input indicative of a modification to the probability of cancer or the region of interest classification.